

REMARKS

Applicants thank the Examiner for the thorough consideration given the present application. Claims 1-19 are currently being prosecuted. The Examiner is respectfully requested to reconsider his rejections in view of the Amendments and Remarks as set forth hereinbelow.

CLAIM FOR PRIORITY

It is gratefully acknowledged that the Examiner has recognized the Applicant's claim for foreign priority. In view of the fact that the Applicant's claim for foreign priority has been perfected, no additional action is required from the Applicants at this time.

DRAWINGS

It is gratefully acknowledged that the Examiner has approved the Formal Drawings submitted by the Applicants. The drawings comply with the requirements of the USPTO. No further action is necessary.

ACKNOWLEDGEMENT OF INFORMATION DISCLOSURE STATEMENT

The Examiner has initialed and returned the Forms PTO-1449 that were submitted together with the Information Disclosure Statements filed on January 3, 2002 and May 22,

2002. In addition, the Examiner has considered the three co-pending applications set forth in Applicants' Letter dated March 7, 2002. No further action is necessary.

RESTRICTION REQUIREMENT

Claims 4-12 stand withdrawn from further consideration. Applicants reserve the right to file divisional applications directed to the non-elected subject matter.

SPECIFICATION

The Examiner has objected to the use of the application numbers on page 1, line 20 of the specification. As the Examiner will note, the specification has been amended to refer to the corresponding patent numbers. In addition, the specification has been reviewed and is believed to be in proper form for printing as a U.S. Patent.

REJECTION UNDER 35 USC 102

Claims 1-3 stand rejected under 35 USC 102 as being anticipated by Turner et al, WO 90/07067. Claims 1-3 stand rejected under 35 USC 102 as being anticipated by Matsumoto et al, U.S. 5,256,107. Claims 1-3 stand rejected under 35 USC 102 as being anticipated by Mizukoshi, U.S. 5,069,653. Claims 1-3 stand rejected under 35 USC 102 as being anticipated by Kimata et al, U.S. 4,747,803, Welschof, U.S. 5,199,925 and Orain, U.S. 5,290,202. These rejections are respectfully traversed.

At the outset, independent claim 1 has been amended to include a combination of elements wherein an entire circumferential edge of the cutout surface is in contact with the spherical surface. This embodiment of the present invention is illustrated in Fig. 4 (36a, 36b), Fig. 11 (56a, 56b) and Fig. 12 (58a, 58b). More specifically, according to these embodiments of the invention, the cutout surfaces on each of the trunnions have a circumferential edge, wherein the entirety of the circumferential edge comes into contact with the spherical surface of the trunnion. For example, in the case of Fig. 4, the cutout surfaces (36a, 36b) have a circular edge, which is relatively small in comparison to the greater trunnion surface, so that the entirety of the circular edge is in contact with the spherical surface 35.

In addition, independent claim 15 has been introduced, which recites all of the features of original claim 1, together with a new limitation concerning the structure of the annular member, e.g., as shown in FIG. 5. Namely, the claim recites a combination of elements wherein each of the annular members (40) comprises a non-circular opening for insertion of the trunnion, and wherein the non-circular opening comprises a non-spherical interior cutout surface (52), the interior cutout surface being in contact with the spherical recess (38) of the annular member. New dependent claims 13, 14 and 16 are also directed to more specific features of this structure the invention. Additional dependent claims 17 and 18 recite the same subject matter of claims 2 and 3, but depend from new claim 15. Finally, new claim 19 recites the subject matter added to claim 1, but made dependent on new claim 15.

The above features of amended claim 1 and new claim 15 are not shown or suggested

by the cited prior art. It is respectfully submitted that claims as presented are not anticipated by the prior art cited by the Examiner. As set forth in Section 2131 of the MPEP Revision 1, February, 2000, page 2100-54:

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. V. Union Oil Co. Of California*, 814 F2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the ... claims.” *Richardson v. Suzuki Motor Co.*, 868 F2d 1226, 1236, 9 USQP2d 1913, 1920 (Fed. Cir. 1989).

It is respectfully submitted that the prior art does not disclose each and every element as set forth in the claims. More specifically, the Turner et al publication appears to show a cutout surface (161) formed on a part of a spherical surface (151) of a trunnion to which no torque is applied. However, as illustrated in Fig. 4 of the Turner et al publication, the entire circumferential edge of the cutout is not in contact with the spherical surface. Rather, only a portion of the edge of the cutout surface (161) comes into contact with the spherical surface.

Similarly, in Matsumoto et al., as shown in Fig. 10, only a portion of the circumferential edge of the cutout surface (40) comes into contact with the spherical surface 28.

A similar case is also true for Mizukoshi, as shown in Fig. 3 of the cited reference.

Further the Kimata et al., Welschhof and Orain patents, to the extent a cutout surface is provided for the trunnion at a location where no torque is applied, the cutout surface is not

formed such that the entire circumferential edge thereof comes into contact with the spherical surface of the trunnion.

As for advantages of the claimed structure, in the present invention, by providing a combination of elements as set forth in the claims by minimizing the size of the cutout surface of the trunnion, a maximal spherical surface of the trunnion can be maintained in surface-to-surface contact with the inner spherical recess of the annular members. Further, because the full edge of the cutout surface contacts with the spherical surface, when enclosed in the annular member, an oil sump (i.e., a lubricating oil retaining space) is created between the cutout surfaces of the trunnion and the inner spherical recess of the annular member, thereby improving lubrication characteristics, rotary driving force-transmitting ability, and durability. See page 13, lines 8-13, of the present specification.

With respect to new claim 15, the combination of elements as set forth in claim 15 emphasizes the cooperative structural relationship between the output surfaces of the trunnions and the non-circular opening and interior cutout surface of the annular members. Owing to these features, the trunnions are easily inserted into the annular members without requiring any deformation of the annular members upon assembling the trunnions and annular members together. In other words, the trunnions need not be forcibly inserted into the annular members, as is required in the case of Turner et al. publication, for example. See paragraph bridging pages 5 and 6 of the present specification.

It is therefore respectfully submitted that the shapes of the trunnions and the cutout

surfaces of the inner rollers, in combination, are not suggested in the cited prior art. Thus, claim 13 to 16 (including independent claim 15) are allowable for this additional reason.

Claims 2-3 and 17-16 are also allowable, as dependent claims, at least for the same reasons as claims 1 and 15 respectively.

Accordingly, it is respectfully submitted that the combination of elements set forth in amended claim are not anticipated by the prior art relied on by the Examiner. It is respectfully submitted that the prior art cited by the Examiner does not set forth each and every element as defined in the claims. Thus, the Examiner's rejection based on 35 USC 102 has been obviated.

NO PROSECUTION HISTORY ESTOPPEL

Claim 1 has been amended to clarify the claim language. No prosecution history estoppel would apply to the interpretation of the limitations set forth in claims 1-19 in view of the fact that this subject matter has been continuously presented since the original filing date of the present application.

CONCLUSION

In view of the above remarks, it is believed that the claims clearly distinguish over the patents relied on by the Examiner, either alone or in combination.

Since the remaining patents cited by the Examiner have not been utilized to reject the

claims, but to merely show the state of the art, no comment need be made with respect thereto.

In view of the above amendments and remarks, reconsideration of the rejections and allowance of all of the claims are respectfully requested.

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (703) 205-8000 in the Washington, D.C. area.

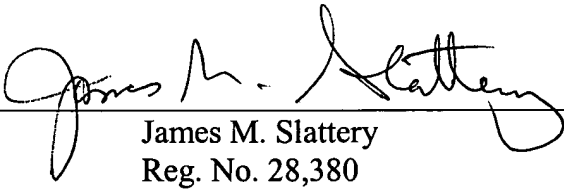
A prompt and favorable consideration of this Amendment is respectfully requested.

Application No. 10/034,130
Amendment dated August 7, 2003
Reply to Office Action of May 9, 2003

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By 
James M. Slattery
Reg. No. 28,380

JMS/mmi

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000